I. **Formal Matters:**

Rejections Under 35 U.S.C. § 112

Claims 1-6, 10-12, 17-19 and 21 are rejected under 35 U.S.C. § 112, first paragraph as allegedly not being described in the specification in such a way as to convey that Applicants had possession of the claimed invention. This rejection is respectfully traversed.

It is respectfully submitted that the Examiner's statement that lauryldimethyl amine oxide only has one functional group is incorrect. The chemical structure of lauryldimethyl amine oxide is $[CH_3(CH_2)_{11}N(CH_3)_2]_2O$. As such, lauryldimethyl amine oxide contains two amino groups and one oxide group (ether linkage). The oxide group is a hydrophilic, but non-reactive, functional group that is widely used as a hydrophilic functional group in the surfactant industry. The two amine groups are both reactive and hydrophilic. One amine group is used to react with a carboxyl group on the superabsorbent polymer. In a standard embodiment, once the first amine has reacted, reactivity of the second amine is reduced. In the present invention, one amine reacts with the polymer and one amine and one oxide will remain on the surface of the treated fiber to enhance wettability. As such, it is respectfully submitted that Applicants did have possession of the claimed invention at the time the application was filed and respectfully request withdrawal of this rejection.

Claim 21 is rejected under 35 U.S.C. § 112, first paragraph as allegedly not being enabled for processes wherein the surfactant is applied to an insoluble material. This rejection is respectfully traversed.

Again, it appears that this rejection is based on the Examiner's belief that lauryldimethyl amine oxide only has one functional group. However, for the reasons described above, lauryldimethyl amine oxide has multiple functional groups. As such, treatment with lauryldimethyl amine oxide achieves both a high surface tension (low wash-off) and low floating time (wettable), which is not possible with a mono-functional surfactant. Therefore the Specification teaches how to achieve permanently wettable superabsorbent materials ***and*** high surface tension. As such, it is respectfully submitted that the Specification was enabling and respectfully request withdrawal of this rejection.

Claims 1-6, 10-12, 17-19 and 21 are rejected under 35 U.S.C. § 112, second paragraph as allegedly being indefinite. This rejection is respectfully traversed.

The Examiner states that the metes and bounds of what is included in Claim 1 and in the use of the term "superabsorbent materials" cannot be determined. This is respectfully traversed. At page 5, lines 27-30, Applicants clearly define what is meant by a superabsorbent material (a water-swellable, water-insoluble material capable of absorbing from about 10 to about 1000 times its weight in water). As such, it is respectfully submitted that Applicants have pointed out ***and*** defined the metes and bounds of the subject matter to be protected. As such, Applicants respectfully request withdrawal of this rejection.

The Examiner also alleges that the only identified surfactant does not satisfy the claim features of Claim 1. This is respectfully traversed. As described above, lauryldimethyl amine oxide has multiple functional groups and, therefore, does satisfy the claim features of Claim 1. Accordingly, Applicants respectfully request withdrawal of this rejection.

Lastly, Claim 1 is allegedly indefinite for use of the term "activated". This is respectfully traversed. As set forth at page 7, lines 20-30, the use of water in the surfactant solution achieves this activation. When the surface is activated, an activated surface of a superabsorbent material means that the functional groups on the surface of the superabsorbent material are fully exposed (outward) so that they are readily reactive to the functional groups of the surfactant (see page 8, lines 1-15). As such, it is respectfully submitted "activated" is defined in both the manner in which it is achieved and what it achieves. As such, Applicants respectfully request withdrawal of this rejection.

Claim 2 is rejected under 35 U.S.C. § 112, second paragraph as allegedly being indefinite for the amount of water needed to solvate the surface. The Examiner proposes amending the claim to recite that "an amount" of water would be sufficient to overcome the rejection. While Applicants thank the Examiner for this rejection, it is respectfully submitted that the claim, as pending, is definite. The Specification does provide a readily measurable quantity, which is up to the causing significant swelling. This is at least 10% increase in volume (swelling). A 100% increase in volume is measurable my many different types of scientific instruments. The reason why an amount of water is not preferred is that the surfactant solution contains an organic solvent, such as isopropyl alcohol. When ratio of water to the organic solvent changes, the swelling level of a superabsorbent material in the solution also changes. For example, in Example 1, Sample 9 is treated at a weight ratio of SAF/water/isopropanol/Rhodamox

LO at 1:1:50:0.005. The weight of water is equal to the weight of SAF, however, the SAF will not achieve a 100% increase in volume because the presence of the isopropanol prohibits the SAF from absorbing the entire amount of water. Therefore, the use of volume change is more scientific and measurable. As such, it is respectfully submitted that Claim 2 is definite and Applicants respectfully request withdrawal of this rejection.

Claims 10-12 are rejected under 35 U.S.C. § 112, second paragraph as allegedly being indefinite for use of the terms "floating time" and "a reduction in surface tension of saline less than about 30%" are indefinite unless saline was defined and the conditions of the test were specified. Further, The Examiner stated that it would be expected that the results of such a test would be dependent on the form, e.g., film versus fiber, and dimensions of the material, e.g., denier of the fiber, none of which was allegedly specified. This is respectfully traversed. The saline used is defined (0.9% NaCl saline, either prepared by mixing NaCl and distilled water at the ratio, or purchased from RICCA Chemical Co., Arlington, TX). Additionally, the conditions of the test are specified (line 30 of page 10 to line 8 of page 11 of the Specification). Additionally, Applicants understand that the dimension of a superabsorbent material affects total surface area and further its floating time and reduction in surface tension. Claims 10-12 are designed to cover a range within which a superabsorbent material is considered as a permanently wettable superabsorbent material. Accordingly, it is respectfully submitted that Claims 10-12 are definite and Applicants respectfully request withdrawal of this rejection.

II. Prior Art Rejections:

Claims 1, 4, 6, 10-12, 19 and 21 stand rejected under 35 U.S.C. § 102 (b) as being anticipated by, or in the alternative under 35 U.S.C. § 103 (a) as being unpatentable over U.S. Patent No. 3,989,586 to Bashaw et al. (hereafter "Bashaw"). This rejection is respectfully traversed.

Claim 1 is directed to, *inter alia*, a method of making a permanently wettable superabsorbent material, comprising treating the superabsorbent material with a surfactant solution; wherein the surfactant has at least one first functional group reactive with a second functional group of the superabsorbent material and at least one non-reactive and hydrophilic functional group; and wherein the surfactant is applied to the superabsorbent material when the second functional groups on the surface of the superabsorbent material are activated.

The Examiner's description of Bashaw may be relied upon as set forth in the Office Action mailed June 14, 2002.

It is respectfully submitted that Bashaw fails to teach or suggest Applicants' claimed invention. Bashaw discloses an isobutylene maleic anhydride copolymer with cetyldimethyl amine oxide as the surfactant and dispersion in methanol. However, Bashaw fails to teach anything regarding surface activation. The Examiner considers pulverization of the copolymer in an attrition mill is a step of activation. This is respectfully traversed. Pulverization may produce new surface area, but it does not modify the old/previous surface. Activation in the present invention means to activate functional groups on the surface of a superabsorbent material so that they can form bonds with the reactive functional group of the surfactant. An activation agent, such as water, is used to effectively achieve this surface activation. Washing in methanol does not activate the surface. Without surface activation, permanent wettability cannot be achieved. This may be seen in a comparison of Sample 9 to Sample 8. Sample 8 is analogous to Bashaw's composition but it is not our invention and, as stated in the Specification, does not constitute Applicants' claimed invention. Accordingly, it is respectfully submitted that Bashaw fails to teach or suggest Applicants' claimed invention.

For at least the reasons given above, Applicants respectfully submit that Claim 1 is allowable over the art of record. Furthermore, since Claims 4, 6, 10-12, 19 and 21 recite additional claim features and depend from Claim 1, these claims are also allowable over the art of record. Accordingly, Applicants respectfully request withdrawal of this rejection.

Claims 2-3, 5 and 17 stand rejected under 35 U.S.C. § 103 (a) as being unpatentable over Bashaw in view of U.S. Patent No. 5,223,026 to Schwartz, Jr. (hereafter "Schwartz, Jr.") as evidenced by the ACS Registry file. This rejection is respectfully traversed.

Applicants' description of the invention may be relied upon as above..

Schwartz teaches the use of lauryldimethyl amine oxide in an isopropanol solution.

It is respectfully submitted that the combination of Bashaw and Schwartz, Jr. fails to teach or suggest Applicants' claimed invention. The combination of Bashaw and Schwartz, Jr. only teaches the use of isopropanol to apply lauryldimethyl amine oxide to a superabsorbent material surface. However, the combination of Bashaw and Schwartz, Jr. does not teach or suggest superabsorbent materials having the properties

Applicants claim. The Examiner is correct that "it is well known to handle surfactants in the form of alcohol solutions in order to facilitate transfer and handling". However, to use isopropanol solution to transfer lauryldimethyl amine oxide does not remedy the deficiencies of Bashaw. Applicants' claimed invention uses a surfactant having at least one reactive and one hydrophilic functional group on the surfactant, and provides suitable conditions to ensure reaction between the surfactant and the superabsorbent material to achieve permanence (non-washable). These conditions are what Applicants have defined as activation. Activation involves the use of an activation agent, such as water. If this is not involved, the structure and properties of what was disclosed by the application will not be achieved. Bashaw cannot achieve the structure and the material produced by his method since Bashaw does not have the properties of what Applicants claimed due to lack of teaching on activation or use of activation agent. Again, a comparison of Sample 8 (not an example of the invention) and Sample 9 (an example of the invention) demonstrates this. Sample 8 is a wettable (floating time less than 30 seconds) but not permanent (surface tension reduction greater than 30% from 58.1 to 44.3 dyne/cm) superabsorbent fiber. Sample 9 is both a wettable (floating time less than 30 seconds) and a permanent (surface tension reduction less than 30% from 58.1 to 57.5 dyne/cm) superabsorbent fiber. A superabsorbent fiber treated by the method disclosed by Bashaw will have a floating time less than 30 seconds but a surface tension reduction greater than 30%. This combination of properties is the same as commercial superabsorbent fiber Fiberdri 1241 (as Sample 1 in this application). As such, Bashaw fails to teach or suggest Applicants' claimed invention and Schwartz, Jr. fails to remedy these deficiencies.

For at least the reasons given above, Applicants respectfully submit that Claim 1 is allowable over the art of record. Furthermore, since Claims 2-3, 5 and 17 recite additional claim features and depend from Claim 1, these claims are also allowable over the art of record. Accordingly, Applicants respectfully request withdrawal of this rejection.

III. Conclusion:

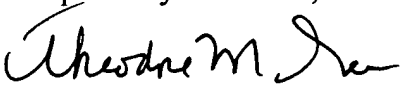
For at least the reasons given above, Applicant submits that Claims 1-21 define patentable subject matter. Accordingly, Applicant respectfully requests allowance of these claims.

The foregoing is submitted as a full and complete Response to the Office Action mailed June 14, 2002, and early and favorable consideration of the claims is requested.

Should the Examiner believe that anything further is necessary in order to place the application in better condition for allowance, the Examiner is respectfully requested to contact Applicant's representative at the telephone number listed below.

No additional fees are believed due; however, the Commissioner is hereby authorized to charge any deficiency, or credit any overpayment, to Deposit Account No. 11-0855.

Respectfully submitted,



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